

Do marketing promotion efforts in the tourism industry really matter? The case of Mauritius

Boopen Seetannah

SUMMARY

Research on the determinant of international tourism has so far neglected tourism promotion efforts as a potential factor in the tourism demand equation. Moreover the few studies focused exclusively on developed country cases and till now no studies have been undertaken for small island states for which tourism accounts significantly to their economies. Research works have also failed to adequately investigate the time series properties of the data. The paper thus attempts to fill in the above gaps in and add new insights to the literature by focusing on the contribution of tourism promotion efforts on tourist arrival for the case of the small island state of Mauritius using an ARDL approach. Analysis of the results reveals that tourism marketing and promotion is indeed a significant element, though as not as sizeable as other classical ones, in the tourism equation.

Key words:

tourism promotion; autoregressive distributed Lag Model; JEL classifications: C32, E62, F13, H59; Mauritius

INTRODUCTION

Tourism is the world's largest and fastest growing industry accounting for more than 1/10 of global GDP, employment and capital formation (WTTC 2003). Undoubtedly it plays an important role in (a) contributing to the growth of domestic industries that supply the tourism industry, (b) the economic and technological development of nations by stimulating the development of basic infrastructure and (c) attracting foreign investment (especially in hotels) and facilitating transfer of technology.

Studies (see Sinclair, 1998 for a comprehensive survey) have clearly spelled out and established empirical evidences on the positive and significant effect of tourism on a destination's economy.

International tourism has become a major industry in Mauritius during the past decade following the advent of sugar sector and the declining trends of the Export Processing Zone (EPZ). It has surpassed Mauritius traditional exports and there has been a significant increase in the number of tourist arrivals and receipts (refer to Table 1 in Appendix).

Boopen Seetannah, Msc, School of Public Sector Policy and Management, University of Technology, La Tour Koenig, Pointe-aux-Sables, Republic of Mauritius.
E-mail: b.seetannah@utm.intnet.mu

Its increasing contribution to the Gross Domestic Product is also shown in the Table 1. The sector now positions itself as the second pillar of the economy and there exists firm government intention to further promote tourism.

Given the importance of this sector to the economic growth of the country (Durbarray 2002, 2004), the objective of the study is, in the first instance, to identify and quantify the factors that made Mauritius attractive to tourists and also in the second instance to investigate the importance of tourism promotion efforts in destination development. In fact, though Crouch and Ritchie (1999, 2000) identified the various elements that make a destination attractive, yet it is believed that for tourism to be aware of such elements, marketing and promotion efforts are necessary and this is even more important given the high level of competition in the tourism industry. Little serious research has been undertaken in this respect and the novelty of this paper is that it extends a classical demand for international tourism function to include tourism promotion efforts and also takes into account the time series properties of the data by using an Autoregressive Distributed Lag Model (ARDL). Moreover, the study is based on the small island of Mauritius over the period 1970-2003. The study thus provides an assessment of the relative impact of promotional expenditure and is likely to be of particular interest to public and private agencies as they formulate plans for developing the tourism industry.

The structure of the paper is as follows: first part deals with the theoretical underpinnings of the role of tourism promotion effort in a destination's attractiveness and also with a brief literature review of major studies in the area, followed by the explanation of the model specification, data collection and discusses the empirical results. Last section concludes and deals with some policy implications.

LITERATURE REVIEW

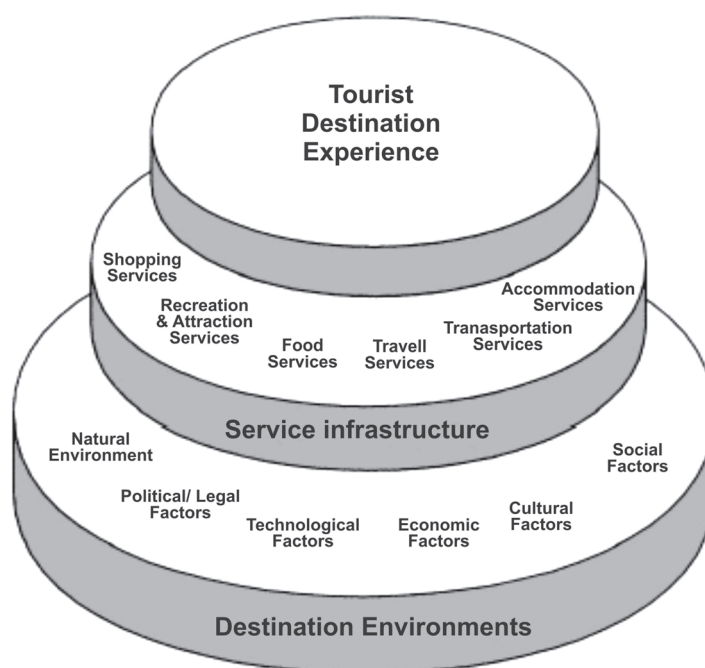
Theoretical underpinnings

Several tourism researchers have attempted to clarify the nature of the tourism product. Murphy et al. (2000) related this type of product to supply and demand analysis and described how various components of the destination interact with travelers during their trip.

Gunn (1988) denotes the tourism product as a complex consumptive experience that results from a process where tourists use multiple of services (information, relative prices, transportation, accommodation, and attraction services) during the course of their visit. Other economic and political conditions and structural features are also important factor shaping many tourist experiences and contribute to the nature of the destination product.

Figure 1

THE TOURIST DESTINATION EXPERIENCE (Adapted from Ritchie and Crouch 2000)

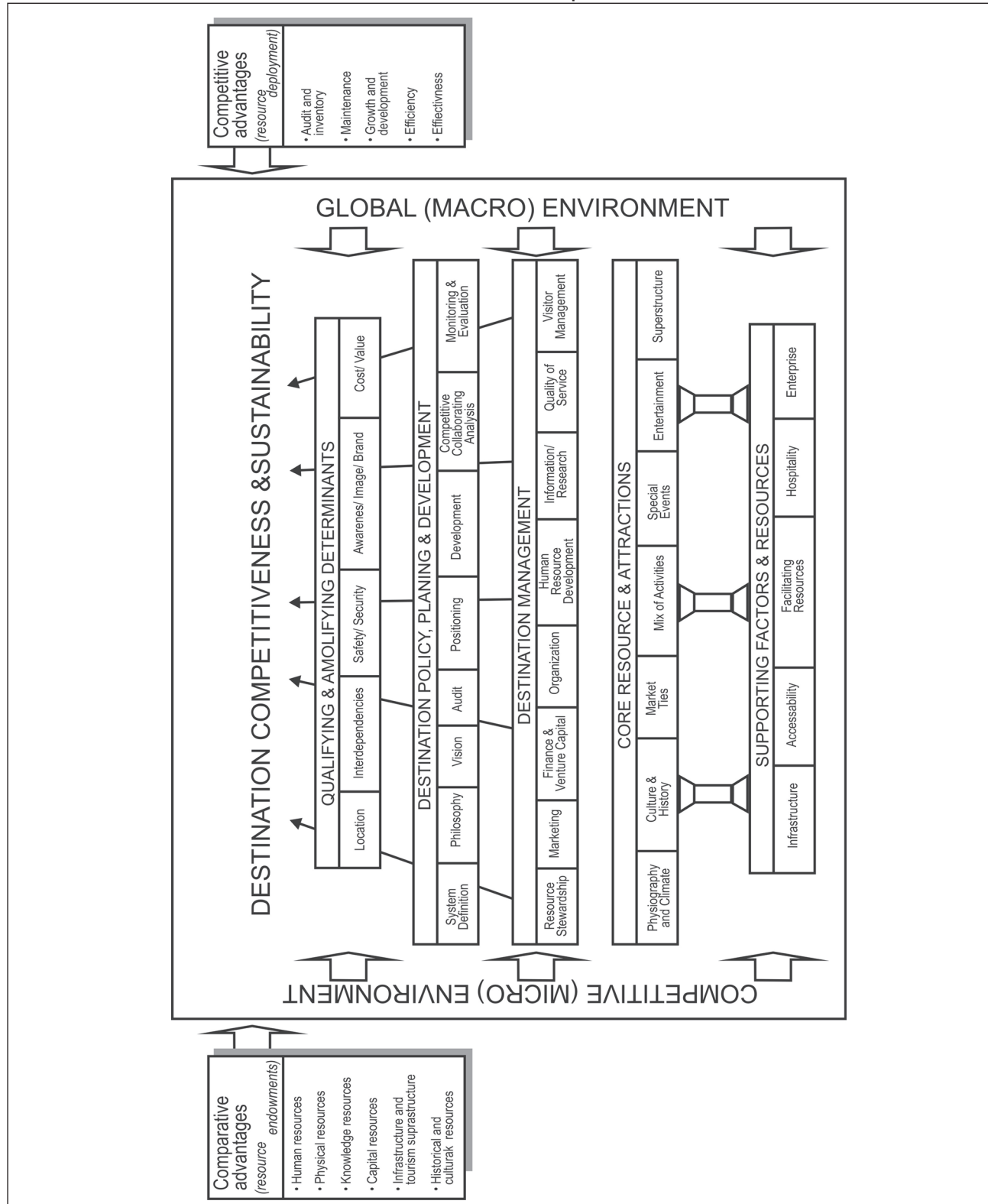


Crouch and Ritchie (2000) comprehensively summarised the various factors (Figure 1) that together make a tourist destination experience attractive. They highlighted the importance the service infrastructure and destination environment in tourist destination experience. The tourist destination product is also better understood in the context of comparative and competitive advantage.

Figure 2 depicts a global picture of the determinants of a destination's competitiveness. Crouch and Ritchie (2000) argued that factor conditions are important determinants of attractiveness as tourists travel to a destination to receive destination experience. Every element has been categorised under core attraction and supporting elements.

Figure 2

DESTINATION COMPETITIVENESS AND SUSTAINABILITY (Source: Adapted from Crouch and Ritchie 1999)



Although Crouch and Ritchie (1999, 2000) identified various elements that make a destination attractive, yet is believed that, for tourism to be aware of such elements, marketing and promotion efforts are necessary and this is becoming even more important given the high level of competition in the tourism industry.

Tourism marketing promotion and the role of National Tourism Promotion Agencies/Organisations (NTPAs)

Tourism promotion efforts aim principally at disseminating as much information as possible about a destination and its attractions in an attempt to make it better known in the ever increasing competitive international tourism market. This is particularly true for island economies such as Mauritius which are quite remote from the major tourist generating areas. Moreover, as tourists have grown more sophisticated and knowledgeable about different destinations and tourism products, there is an increasing demand on promotional agencies to provide greater level of information.

In fact, the bulk of tourism promotion efforts is undertaken by the central or local government (through budgetary grants or allocations as well as tourism related tax) through specialised institutions such as National Tourism Promotion Organisations/Agencies (NTPAs). In Mauritius, promotion effort is done nearly exclusively by the central government via the Mauritius Tourism Promotion Agency (MTPA). National Tourist Organisations engage in sales promotion activities in an attempt to persuade potential tourists to visit the destination, and these activities may take various forms including media advertising and public relations (Witt and Witt 1995). They typically develop marketing strategies, design promotional campaign and implement promotional activities. They are also responsible for designing the advertising literature, brochures, media advertisement, designing and maintaining of effective web sites and other publications to support the marketing campaign. Moreover, the promotion efforts take the form of road shows and 'Salon Du Tourism' in major origin countries as well. Most tourism promotion institutions are in charge of operating a network of overseas office to market the country to foreign visitors. The above are designed to present a unified image of the country and focuses on international market.

Empirical evidences

Existing empirical research in assessing the relative contribution of tourism promotion effort have been particularly scarce and have mainly been based on developed countries cases. In the first instance a brief review of some classical studies on the general determinants of international tourism is given and then focus shifts on the few studies which included tourism promotion efforts. These were based either on survey analysis or on the estimation of an international demand for tourism equation using time series data.

Gearing et al. (1974) offered one of the most comprehensive resource inventories in determining the attractiveness of a tourist destination by taking Turkey as a case study. They identified the following list of attribute groups which were seen to be important, namely natural factors, social factors, historical factors, recreational and shopping facilities, food and accommodation. Subsequently, Richtie and Zins (1978) and Ferrario (1979), among others, also identified more or less the same factors which they found to contribute to the attractiveness of a tourism destination. These authors seemed to have identified the important factors for a successful tourism development but still promotion of these are judged to be equally important for the tourist to be aware and fully informed of destination's products and attractions.

Braithwaite et al. (1998)¹ also reports on research looking specifically at the factors responsible for ensuring success of tourism in 13 regional areas of Australia. Analysis of the survey results showed that attractions (natural, cultural and man made) are considered as the most pivotal factor in regional tourism. Equal second were what they termed 'infrastructure and marketing and promotion' followed by other factors.

The second type of studies performed in the field of the determinants of tourism was based on the estimation of an international tourism demand equation. Witt and Witt (1995) and Lim (1997) provided a comprehensive overview of the regression analysis, model specification, attributes and proxies. Among the most common independent variables used and reported to be important in the literature are income of origin country, cost of travel, relative prices, exchange rate, tourism infrastructure and level of development in home country.

One of the few study analysing tourism efforts was provided by Uysal and Crompton (1984). They considered promotional expenditure as a factor affecting international tourism flows to Turkey using an international tourism demand equation. The authors reported tourism promotion efforts to be significant on six of the 11 countries studied and that coefficients were low, less than 0.6 in each case (inelastic in all cases ranging from 0.022 for France to 0.596 for Spain).

These findings suggest that investment in tourism promotion for Turkey as a tourism destination has had some benefits. Barry and O'Hagan (1972) earlier, and Papadopoulos and Witt (1985) with a coefficient of 0.175 (but not significant) later on, confirmed the above. The review of literature by Witt and Witt (1995) summarized a median coefficient value of 0.1 for the case of tourism promotion.

One rare study in the African context is by Naude and Saayman (2004) who studied the determinants of tourism demand in the case of African countries using panel data regression approach. Apart from the classical common factors, the authors also identified political stability, personal safety, available infrastructure and tourism marketing efforts as important factors. The latter was proxied in the context by the number of internet users.

Using cross section OLS and Least Absolute Deviation (LAD) estimators the authors reported a positive effect of tourism promotion effort in nearly all panel sets analysed, namely, the total tourist arrivals and arrivals from America, Europe and Africa respectively. However when using static and dynamic (Generalised Methods of Moments) panel estimates, mixed results were found with respect mainly to the significance level of the tourism marketing promotion variable.

Hardly any study exists that uses cointegration and error correction econometric modeling and includes marketing promotion effort as a likely potential factor as part of the explanatory variables. Moreover, studies on small island economies has been very scarce and empirical findings in the above context is believed to add valuable insights in the growing body of literature.

METHODOLOGY AND ANALYSIS

Model specification and data source

The study reported here is based on the small island of Mauritius over the year 1970 - 2003. It follows classical (Witt and Witt 1995; Lim 1997) and more recent research (Nordstom 2002; Eilav and Eilav 2003; Naudee and Saayman 2004) in the field by extending a demand function for international tourism to include tourism promotion effort as proxied by tourism promotion expenditure. The function specified is thus as follows:

$$(1) \\ TR_t = f(GDPH_t, GDPF_t, ROOM_t, \\ XRAT_t, RELATIVE_t, PROMO_t)$$

The dependent variable (TR), the total number of tourist arrivals per annum is the measure of demand for tourism to Mauritius. The data were available from the Central Statistical Office of the country.

The key independent variables in the model are total tourism expenditures and relative tourism prices. The literature was followed (Nordstom 2002; Naude and Saayman 2004) in using real Gross Domestic Product ($GDPF$) per capita in countries of origin (weighted average) as proxy for total expenditures on tourism. Overseas travel (especially recreational) is expensive and often regarded as a luxury good in which case the discretionary income of origin become important.

As for the case of relative prices (measured as $RELATIVE$), Eilat and Einav (2004) and Naudee and Saayman (2004) approach was followed by using the CPI of a destination country adjusted by the \$ exchange rate as a proxy for relative tourism prices. The inverse of it shows the number of baskets of goods a tourist has to give up in his home country in order to buy a basket of goods in the destination country.

This measure of relative prices captures changes in the real exchange rate over time as well as cross sectional variation in the cost of travel. Demand for overseas travel in a particular destination is expected to be negatively related to relative tourism prices as higher within the country and relatively higher cost of living would make most tourists less enthusiastic about the destination.

Exchange rates (*XRAT*) are often introduced into tourism demand models in addition to and separately from the relative price variable in an attempt to specifically examine the influence of nominal exchange rate on international tourism demand (see Martin and Witt 1988; Witt and Witt 1995 among others).

Urbanisation and development level (*GHPH*) of a destination country is consistent with more tourist arrivals, especially from developed countries. Tourist might prefer more developed destinations or a minimum development level in choosing their destination. This is proxied by the income of the destination country. All the above three variables were obtained and constructed from the Penn World Table 6.1.

In case of tourism infrastructure, we follow the standard literature and use hotel rooms (*ROOM*) available in the country as a measure of the capacity of the tourism sector. The more the room the more the capacity and more competitive that country's tourism sector (cheaper price as competition). Moreover, a minimum is hotel accommodation size needed for a destination to reach its critical mass and also to convince airlines to establish routes (Naudee and Saayman 2004). Data on the number of rooms were obtained from the Central Statistical Office of the country.

The explanatory variable of interest is tourism promotion effort (*PROMO*) and this is measured by tourism promotional expenditure (Clarke 1981; Uysal and

Crompton 1984) as allocated to the Mauritius Tourism Promotion Agency (MTPA) by the government (tourism promotion by the private sector could not be included since reliable data was not available). It is worthwhile to point out that promotion and marketing of tourism is nearly exclusively done by the country's central government. The figures were provided by the Central Statistical Office, Tourism Department of the Island.

Econometric modeling

The regression model of Equation 1 can be written as :

(2)

$$tr_t = \beta_0 + \beta_1 gdp_h_t + \beta_2 gdp_f_t + \beta_3 xrat_t + \beta_4 relative_t + \beta_5 room_{it} + \beta_6 promo_t + \varepsilon_t$$

The specification is of a log linear one and the small letters denotes the natural logarithm of the variables for ease of interpretation of parameters.

Tests of stationarity

To investigate the data univariate properties and to determine the degree to which they are integrated, both the augmented Dickey-Fuller (ADF) (1979) and Phillips-Perron (PP) (1988) unit-roots tests have been employed and the results are shown in Table 1 and 2.

Table 1
SUMMARY RESULTS OF UNIT ROOT TESTS IN LEVEL FORM:
DICKEY-FULLER AND PHILLIPS/PERRON TEST

Variables (in log)	Lag selection	Aug. Dickey Fuller	Phillips Perron	Critical Value	Variable Type	Aug Dickey Fuller - time trend (t)	Critical Value	Variable Type
<i>tr</i>	1	+0.26	+0.64	-2.97	<i>I</i> (1)	+1.84	-3.5	<i>I</i> (1)
<i>gdph</i>	1	-1.52	-1.64	-2.97	<i>I</i> (1)	-1.53	-3.5	<i>I</i> (1)
<i>gdpf</i>	1	-0.24	-2.55	-2.97	<i>I</i> (1)	-3.01	-3.5	<i>I</i> (1)
<i>relative</i>	1	+1.58	+2.51	-2.97	<i>I</i> (1)	+1.26	-3.5	<i>I</i> (1)
<i>xrat</i>	1	-0.55	-0.36	-2.97	<i>I</i> (1)	-0.45	-3.5	<i>I</i> (1)
<i>room</i>	1	-1.25	-0.66	-2.97	<i>I</i> (1)	-0.89	-3.5	<i>I</i> (1)
<i>promo</i>	1	-3.34	-3.65	-2.97	<i>I</i> (0)	-4.12	-3.5	<i>I</i> (1)

Table 2
SUMMARY RESULTS OF UNIT ROOT TESTS IN FIRST DIFFERENCE:
D/F AND PHILLIPS/ PERRON TEST

Variables (in log)	Lag selec- tion	Aug. Dickey Fuller	Phillips Perron	Critical Value	Variable Type	Aug Dickey Fuller - time trend (t)	Critical Value	Variable Type
Δtr	0	-5.07	-6.78	-2.9	$I(0)$	-4.96	-3.6	$I(0)$
$\Delta gdph$	0	-5.03	-4.29	-2.9	$I(0)$	-5.29	-3.6	$I(0)$
$\Delta gdpf$	0	-4.89	-5.03	-2.9	$I(0)$	-4.88	-3.6	$I(0)$
$\Delta relative$	0	-5.165	-3.74	-2.9	$I(0)$	-5.23	-3.6	$I(0)$
$\Delta xrat$	0	-3.57	-2.97	-2.9	$I(0)$	-3.69	-3.6	$I(0)$
$\Delta room$	0	-4.54	-3.34	-2.9	$I(0)$	-4.96	-3.6	$I(0)$

The tests in fact provide solid evidence and tend to suggest that the series are non-stationary in levels but indeed stationary in first difference except for the case of promo which is found to be an $I(0)$ variable.

ARDL (Autoregressive distributed lag model)

Given that not all the variables are integrated to the same order, we employ the testing and estimation procedure advanced in Pesaran et al (1997) and Pesaran and Shin (1999) to examine the existence of a long-term relationship (cointegration) in our analysis - namely the ARDL approach. Unlike other cointegration approaches such as the Johansen's (1988) Maximum Likelihood technique, the ARDL technique does not require the variables in the model to be $I(1)$, or of the same order. The approach also allows us to incorporate some dynamics in the analysis.

For the specification 1 above, the error correction versions of the ARDL model in the variables tr , $gdph$, $gdpf$, $room$, $relative$ and $promo$ is given respectively by

(3)

$$\begin{aligned} \Delta tr = & \beta_0 + \sum_{i=1}^n b_i \Delta tr_{t-i} + \sum_{i=1}^n c_i \Delta gdph_{t-i} + \sum_{i=1}^n d_i \Delta gdpf_{t-i} + \\ & \sum_{i=1}^n e_i \Delta relative_{t-i} + \sum_{i=1}^n f_i \Delta xrat_{t-i} + \sum_{i=1}^n g_i \Delta room_{t-i} + \\ & \sum_{i=1}^n h_i \Delta promo_{t-i} + \delta_1 \Delta tr_{t-1} + \delta_2 \Delta gdph_{t-1} + \delta_3 \Delta gdpf_{t-1} + \\ & \delta_4 \Delta relative_{t-1} + \delta_5 \Delta xrat_{t-1} + \delta_6 \Delta room_{t-1} + \\ & \delta_7 \Delta promo_{t-1} + \varepsilon_t \end{aligned}$$

Since annual observations were used, it was chosen $n=1$ for the maximum order of lags in the ARDL model in both cases and the estimation over the period of study was carried out. In fact, the same lag length was chosen when using the final prediction error due to SBC.

For the model, the hypothesis that is being tested is the null of 'non-existence of the long run relationship' defined by:

$$H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = \delta_5 = \delta_6 = \delta_7 = 0$$

And the alternative hypothesis is:

$$H_1: \delta_1 \neq 0, \delta_2 \neq 0, \delta_3 \neq 0, \delta_4 \neq 0, \delta_5 \neq 0, \delta_6 \neq 0, \delta_7 \neq 0$$

The recommended statistic is the F statistics for the joint significance of $\delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6$ and δ_7 . Computation of this F statistic requires running the following regression:

(4)

$$\begin{aligned} \Delta tr_t = & \beta_0 + b \Delta tr_{t-1} + c \Delta gdph_{t-1} + d \Delta gdpf_{t-1} + \\ & e \Delta relative_{t-1} + f \Delta xrat_{t-1} + g \Delta room_{t-1} + \\ & h \Delta promo_{t-1} + \varepsilon_t \end{aligned}$$

and a variable addition test is subsequently made by including the following:

$$\begin{aligned} & \delta_1 tr_{t-1}, \delta_2 gdph_{t-1}, \delta_3 gdpf_{t-1}, \delta_4 relative_{t-1}, \\ & \delta_5 xrat_{t-1}, \delta_6 room_{t-1}, \delta_7 promo \end{aligned}$$

It should be noted that the distribution of the F statistic is non-standard, irrespective whether regressors are $I(0)$ or $I(1)$. Pesaran and Pesaran (1997) have tabulated the appropriate critical values for different number of regressors and whether the regressors contain an intercept or a time trend.

The F-Statistics $F(tr/gdph, gdpf, room, relative, xrat, promo)$ turned out to be 6.23 and exceeds the upper bound of the critical value band. Thus the null hypothesis of no long run relationship between the variables irrespective of their order was rejected. The test results therefore suggest that there is a long run relationship between the variable. This is also confirmed by the Maximum Eigen values and Trace Values of the Johansen test for cointegration.

Estimation results

Given that the specification is cointegrated, the unrestricted error correction representation of the ARDL model is given by Equation 3.

The next stage of the procedure would be to estimate the coefficients of the long run relations and the associated Error Correction Model (ECM) using the ARDL approach. The order of the distributed lag on the dependent variable was selected by the Schwartz Bayesian Criterion (SBC)² and turned out to be one.

The SBC criteria selects the ARDL (1,1,1,1,0,0,0) for the model. The long run estimated coefficients are shown in the Table 3.

It is observed that tourism promotional effort may have indeed contributed positively to the tourist arrival in the country in the long run, thus confirming its importance as a potential ingredient in tourism destination. In fact, a 1% increase in *promo* is associated with 0.18% increase in the number of tourist arrival in the island and this result is consistent with the works of Barry and O'Hagan (1972) and Witt and Witt (1995). The level of development of the island and tourism infrastructure are also seen to be important determinants. The income of the country of origin, a measure of income elasticity seems to indicate that Mauritius is a luxury destination. As such, tourists are reported to be price sensitive, as revealed by the negative and significant coefficient of the variable *relative*. However the variable *xrat* is positive and insignificant suggesting that exchange rate fluctuations may not matter in tourist travel decisions.

The analysis turns now to the estimation of the autoregressive distributed lag estimates and the error correction model associated with the long run estimates using SBC. The results are reported in Table 4.

The selected ARDL model passes the standard diagnostic tests (Serial Correlation, Functional Form, Normality and Heteroscedasticity) and highlights once again the positive link between tourism marketing and promotion effort and tourism arrival in a dynamic framework and where there is the presence of lagged effects. The positive coefficient of the lagged dependent suggests that repeat tourism is a common phenomenon for the Mauritian case. Moreover, the positive constant term indicates that visitors have a good opinion of the island as a destination resort.

Table 3
ESTIMATED LONG RUN COEFFICIENTS BASED ON ARDL APPROACH.
DEPENDENT VARIABLE IS *tr*

Regressor	Coefficient (SBC 1,1,1,1,0,0,0)	t-ratio
<i>gdph</i>	0.43*	1.85
<i>gdpf</i>	4.22***	2.97
<i>relative</i>	-0.812*	-1.84
<i>xrat</i>	0.146	0.26
<i>room</i>	0.357***	2.96
<i>promo</i>	0.18*	1.76
<i>constant</i>	6.23***	4.83

Table 4
AUTOREGRESSIVE DISTRIBUTED LAG ESTIMATES.
DEPENDENT VARIABLE IS *tr*

Regressor	Coefficient SBC (1,1,1,1,0,0,0)	t-ratio
<i>tr</i> (lagged)	0.396***	7.35
<i>gdph</i>	0.313*	1.76
<i>gdph</i> (lagged)	0.157	0.74
<i>gdpf</i>	2.37**	2.21
<i>gdpf</i> (lagged)	0.83**	1.86
<i>relative</i>	-0.564***	-3.94
<i>relative</i> (lagged)	-0.253**	-0.96
<i>xrat</i>	0.05	0.294
<i>room</i>	0.315***	2.75
<i>promo</i>	0.114*	1.72
Constant	3.65***	3.49
R sqr	0.917	
Dw	2.5	

Table 5
ERROR CORRECTION REPRESENTATION
FOR THE SELECTED ARDL MODEL.
DEPENDENT VARIABLE IS *tr*

Regressor	Coefficient SBC (1,1,1,1,0,0,0)	t-ratio
Δ <i>gdph</i>	0.313*	1.76
Δ <i>gdpf</i>	2.37**	2.21
Δ <i>relative</i>	-0.564***	-3.94
Δ <i>xrat</i>	0.05**	0.249
Δ <i>room</i>	0.315**	2.75
Δ <i>promo</i>	0.114*	1.82
<i>Ecm</i> (-1)	0.37***	4.21
R sqr	0.73	
Dw	2.5	

Table 5 suggests that the impact of tourism promotion on the tourism development has been positive and significant in the short run as well, with a coefficient of 0.114. This is slightly lower than the estimated long run coefficient of 0.18 suggesting that these marketing and promotional efforts may take some time to have their full effect. The coefficients for the other explanatory variables are well behaved and have the expected sign and significance.

In particular, the long run coefficient for the foreign income is slightly more than reported in the literature and confirms that Mauritius is seen as a more luxury destination in the market. Relative prices and exchange are found to negatively impact on the attractiveness of Mauritius as a destination. The negative and significant adjusted CPI indicates the tourists are relatively price sensitive.

It is, however, estimated to be less than in the literature which reported that the price elasticity often falls within the range of unitary (Crouch 1999) thus indicating that tourists might be less price-sensitive. The positive and significant coefficient of domestic income, used as an indicator for development, suggests that a higher level of development is consistent with more tourist arrival.

Lastly, the coefficient of the error correction model (ECM) of the selected ARDL is negative and highly significant at 1% level. This confirms the existence of a stable long-run relationship and points to a long-run co-integration relationship between variables. The ECM represents the speed of adjustment to restore equilibrium in the dynamic model following a disturbance. The coefficient of the ECM is around -0.4 in implies that a deviation from the long-run equilibrium following a short-run shock is corrected by about 40 per cent after each year.

SUMMARY AND POLICY IMPLICATIONS

Although many writers acknowledge the role of tourism promotion efforts as an overall element in a successful program of tourism development, little serious research has been undertaken to shed light on the hypothesis. The link between tourism promotion effort and tourism arrival has been analysed here using an Autoregressive Distributed Lag framework for the small island state of Mauritius. Results from the analysis show that tourism promotion efforts may have contributed positively, though not to a sizeable level, to the number of tourist arrival in both short and long run. The income and price elasticities from the study further reveal that Mauritius is considered to be a luxury and that tourist are also price sensitive. Tourism infrastructure and the country development level are also part of the overall ingredient of Mauritius's successful tourism development.

As far as policy recommendations are concerned, it is believed that the government should refrain itself in undergoing drastic cuts in tourism promotion allocations and grants especially in times of budget constraint. In fact, in such a competitive industry still more sustained promotion effort and strategy (creative, effective and aggressive) is required and thus necessitating a larger budget for this item.

The case of private financing and joint public/private financing arrangements should thus be less ambiguous as long as there is addition to the funding of such efforts and government should ensure that the private sector have sufficient incentive to contribute. A spillover benefit of public private partnerships in tourism is that private sector has more sense of entrepreneurship and is more responsive than the government. The industry members can thus provide valuable expertise for a market driven promotional and marketing activities.

Moreover, the government's tourism marketing should also be increasing axed towards relentlessly developing new markets and exploit new market niches (honeymoon, hiking, mountain-biking, back packers, conference tourism and others). In addition, promotion should also focus not only on the well-established sites, but should also emphasise new and emerging products and attractions.

Lastly, as part of the marketing and promotion efforts, emphasis should also be placed on developing and improving the product on a national level. It is suggested that a percentage of the annual marketing budget be spent on a major project/projects that will have a significant impact on the quality of the visitor experience. Such could include programmes aimed at reducing crime and violence, improving attitudes to visitors, nation-wide programmes to encourage tourism industry employees or school children to be tourists in their own country, and others.

It should be pointed out that the above recommended policies on tourism promotion rests as well on other factors such as tourism effects on gross domestic product, employment, other injected tourism expenditure (such as from the private sector) and opportunity costs of tourism promotional funds. Future empirical work might address the above issues.

Notes

¹ In TTF (2003).

² Pesaran et al (1997) found that SBC is preferable to AIC, as it is a parsimonious model that selects the smallest possible lag length, while AIC selects the maximum relevant lag length.

APPENDIX A

Table 1
SOME KEY FIGURES ABOUT THE MAURITIAN TOURISM SECTOR

	1980	1990	1997	1998	1999	2000	2001	2002	2003
Population of MUS	1,060,000	1,080,000	1,147,000	1,159,730	1,174,400	1,186,140	1,189,000	1,190,344	1,195,433
No. Hotels	43	75	87	90	92	95	95	95	97
Hotel Rooms	2,101	4,603	6,668	6,809	7,267	8,255	8,657	9,024	9,647
Tourist arrival	115,080	291,550	536,125	558,195	578,085	656,543	660,318	681,648	702,018
Tourism Rcpt (mn rupees)	7,500	9,207	10,068	11,890	14,668	14,234	18,166	18,238	19,397
Tourism Receipts (% of GDP)	6%	10%	12%	13%	13%	14%	15%	16%	17%

REFERENCES

- Barry K. and O'Hagan J. (1972) *An Econometric study of British tourist expenditure in Ireland*, *Economic and Social Review* 3(2), 143-161.
- Buhalis D. (2000) *Marketing the competitive destination of the future*, *Tourism Management* 21(116), 343-356.
- Clarke C. P. (1981) *An analysis of the determinants of demand for tourism in Barbados*, University Microfilms International, Ann Arbor, Michigan; London UK.
- Crouch G. I. and Ritchie J. R. B. (1995) *Destination Competitive: Exploring the Quality of ness and the Role of the Tourism Enterprise*, *Proceedings of the Fourth Annual Business Congress*, Istanbul, Turkey, July 13-16, 43-48.
- Crouch G. I. and Ritchie J. R. B. (1999) *Tourism competitiveness and societal prosperity*, *Journal of Business Research*, 44(3), 137-152.
- Crouch G. I. and Ritchie J. R. B. (2000) *The competitive destination: A sustainability perspective*, *Tourism Management* 21.
- Durbarry R. (2002) *The economic contribution of tourism in Mauritius*, *Annals of Tourism Research*, 29(3), 862-865.
- Durbarry R. (2004) *Tourism and economic growth: the case of Mauritius*, *Tourism Economics*, 10(4), 389-401.
- Eilat Y. and Einav L. (2004) *Determinants of international tourism: a three- dimensional panel data analysis*, *Applied Economics* 36, 1315-1327.
- Ferrario F. (1979) *The evaluation of tourist resources*, *Journal of Travel Research* 17(3), 18-22.
- Gearing C. E. (1974) *Establishing a Measure of Touristic Attractiveness*, *Journal of Travel Research*, 12, 1-8.
- Gunn C. A. (1988). *Tourism Planning (second edition)*, New York: Taylor and Francis.
- Heneghan P. (1976) *Resource allocation in tourism marketing*, *Tourism International Press*, London, UK 1976.
- Johansen S. (1988) *Statistical Analysis of cointegration vectors*, *Journal of Economic Dynamics and Control*, 12, 231-54.
- Kulendran N. (1996) *Modeling quarterly tourist flows to Australia using cointegration analysis*, *Tourism Economics*, 2, 203-22.
- Lim C. (1997) *Review of international tourism demand models*, *Annals of Tourism research*, 24 (4), 835-849.
- Martin C. A. and Witt S. F. (1988) *Substitute prices in models of tourism demand*. *Annals of Tourism Research*, 15, 255-268.
- McElroy J. L. (2003) *Small Island Tourist Economies Across the Lifecycle*, Paper prepared for the International Conference, Beyond MIRAB: The Political Economy of Small Islands in the 21st Century, School of Economics and Finance, Victoria University, Wellington, New Zealand, 23-25 February 2004.
- Murphy P., Pritchard M. and Smith B. (2000) *The destination product and its impact on traveler perceptions*, *Tourism Management*, 21, 43-52.

- Naudee W. A. and Saayman A. (2004) *The determinants of tourist arrivals in Africa : A Panel Data Regression Analysis*, Paper presented at the International Conference, Centre for the Study of African Economies, University of Oxford.
 - Nordstrom J. (2002) *Dynamic and Stochastic Structures in Tourism Demand Modeling*, Umea Economic Studies No 596, Umea University, Sweden.
 - Papadopoulos S. I. and Witt S. F. (1985) *A Marketing analysis of foreign tourism in Greece*, in: Shaw S., Sparks L. and Kaynak E., (eds.) *Marketing in the 1990s and beyond: Proceedings of the Second World Marketing Congress* (University of Stirling, Stirling) 682-693.
 - Pesaran H. M. and Shin Y. (1995) *Autoregressive distributed lag modeling approach to cointegration analysis*, DAE Working Paper Series, No. 9514, Department of Economics, University of Cambridge.
 - Pesaran M. H., Shin Y. and Smith R. (1997) *Testing for the Existence of a Long-run Relationship*, DAE Working Papers 9622, Department of Applied Economics, University of Cambridge.
 - Pesaran M. H. (1997) *The Role of Economic Theory in Modeling the Long-run*, *Economic Journal*, 107, 178-191.
 - Pesaran M. H. and Pesaran B. (1997) *Working with Microfit 4.3: Interactive Econometric Analysis*, Oxford University Press
 - Pesaran M. H. and Shin Y. (1999) *An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis*, Chapter 11 in S. Storm (ed.), *Econometrics and Economic Theory in the 20th Century: The Ragnar Firsch Centennial Symposium*, Cambridge University Press, Cambridge.
 - Pesaran M. H., Shin Y. and Smith R. (2001) *Bounds Testing Approaches to the Analysis of Level Relationships*, *Journal of Applied Econometrics*, 16, 289-326.
 - Phillips P. C. B. and Perron P. (1988) *Testing for a Unit Root in Time Series Regression*, *Biometrika*, 75, 335-46.
 - Ritchie B. J. R. and Zins M. (1978) *Culture as a determinant of the attractiveness of a tourist region*, *Annals of Tourism Research*, 5(2), 252-267.
 - Ritchie B. and Crouch G. (1993) *Competitiveness in international tourism: A framework for understanding and analysis*, *Annual Congress of the International Association of Scientific Experts in Tourism*, Baliloché, Argentina.
 - Sinclair T. (1998) *Tourism and economic development: a survey*, *Journal of Development Studies*, 34(5), 1-51.
 - Smith S. L. J. (1994) *The tourism product*. *Annals of Tourism Research*, 21(3), 582-595.
 - Tang and Rochananond (1990) *Attractiveness as a tourist destination; a comparative study of Thailand and selected countries*, *Socio-Econ Planning*, 24 (3).
 - Tourism Task Force (TTF) (2003) *Down the track; better ways to deliver tourism's land transport infrastructure*. Available from www.ttf.org.au.
 - Uysal M. and Crompton J. L. (1984) *Determinants of demand for international tourist flows to Turkey*, *Tourism Management*, 5(4), 288-297.
- Submitted: 01/16/2006
Accepted: 06/07/2006